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FILE 'HOME' ENTERED AT 15:30:24 ON 10 JUN 2004

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=> FILE USPATALL CAPLUS JAPIO
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	ENTRY	SESSION
FULL ESTIMATED COST	0.42	0.42

FILE 'USPATFULL' ENTERED AT 15:31:17 ON 10 JUN 2004
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FILE 'CAPLUS' ENTERED AT 15:31:17 ON 10 JUN 2004
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FILE 'JAPIO' ENTERED AT 15:31:17 ON 10 JUN 2004
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=> S FTIR OR FT-IR OR FOURIER TRANSFORM IR OR (FOURIER TRANSFORM (1W) INFRARED)
L1 78662 FTIR OR FT-IR OR FOURIER TRANSFORM IR OR (FOURIER TRANSFORM
(1W) INFRARED)

=> S (MEASURE? OR DETECT? OR QUANTIFY) (3A) (VINYL GROUP OR VINYL MOIETY OR VINYL
FUNCTION?)
L2 82 (MEASURE? OR DETECT? OR QUANTIFY) (3A) (VINYL GROUP OR VINYL MOIET
Y OR VINYL FUNCTION?)

=> S (MEASURE? OR DETECT? OR QUANTIFY) (3A) VINYL
L3 1721 (MEASURE? OR DETECT? OR QUANTIFY) (3A) VINYL

=> S L1 AND L3
L4 64 L1 AND L3

=> S L4 AND OLEFIN OR ISOOLEFIN OR ISOMONOOLEFIN
L5 1987 L4 AND OLEFIN OR ISOOLEFIN OR ISOMONOOLEFIN

=> S L4 AND (OLEFIN OR ISOOLEFIN OR ISOMONOOLEFIN) (3A) (COPOLYMER OR TERPOLYMER)
L6 7 L4 AND (OLEFIN OR ISOOLEFIN OR ISOMONOOLEFIN) (3A) (COPOLYMER OR
TERPOLYMER)

=> D L6 1-7 IBIB ABS

L6 ANSWER 1 OF 7 USPATFULL on STN

ACCESSION NUMBER: 2004:51697 USPATFULL

TITLE: Hydrogenated copolymer

INVENTOR(S): Sasagawa, Masahiro, Kanagawa-ken, JAPAN
Takayama, Shigeki, Tokyo, JAPAN
Sasaki, Shigeru, Kanagawa-ken, JAPAN
Hisasue, Takahiro, Kanagawa-ken, JAPAN
Suzuki, Katsumi, Kanagawa-ken, JAPAN
Nakajima, Shigeo, Kanagawa, JAPAN

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2004039128	A1	20040226
APPLICATION INFO.:	US 2003-432194	A1	20030520 (10)
	WO 2002-JP10973		20021023

	NUMBER	DATE
PRIORITY INFORMATION:	JP 2001-325476	20011023
	JP 2002-55388	20020301
	JP 2002-189562	20020628
	JP 2002-205350	20020715
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	BIRCH STEWART KOLASCH & BIRCH, PO BOX 747, FALLS CHURCH, VA, 22040-0747	
NUMBER OF CLAIMS:	16	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	4 Drawing Page(s)	
LINE COUNT:	4458	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Disclosed is a hydrogenated copolymer obtained by hydrogenating an unhydrogenated copolymer comprising conjugated diene monomer units and vinyl aromatic monomer units, the unhydrogenated copolymer having at least one polymer block (H) of vinyl aromatic monomer units, wherein the hydrogenated copolymer has the following characteristics (1) to (5): (1) a content of the vinyl aromatic monomer units of from more than 60% by weight to less than 90% by weight, based on the weight of the hydrogenated copolymer; (2) a content of the polymer block (H) of from 1 to 40% by weight, based on the weight of the unhydrogenated copolymer; (3) a weight average molecular weight of from more than 100,000 to 1,000,000; (4) a hydrogenation ratio of 85% or more, as measured with respect to the double bonds in the conjugated diene monomer units; and (5) substantially no crystallization peak observed at -50 to 100° C. in a differential scanning calorimetry (DSC) chart obtained with respect to the hydrogenated copolymer.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 2 OF 7 USPATFULL on STN

ACCESSION NUMBER: 2004:31978 USPATFULL

TITLE: Resin composition comprising saponified ethylene-vinyl acetate copolymer and formed product obtained using the same

INVENTOR(S): Hino, Kyoko, Ibaraki-shi, JAPAN
Hanada, Satoshi, Ibaraki-shi, JAPAN
Takahata, Hiroaki, Toyonaka-shi, JAPAN
Kuroda, Ryuma, Ibaraki-shi, JAPAN

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2004024120	A1	20040205
APPLICATION INFO.:	US 2003-343603	A1	20030203 (10)
	WO 2002-JP1028		20020207
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	APPLICATION		
LEGAL REPRESENTATIVE:	SUGHRUE MION, PLLC, 2100 PENNSYLVANIA AVENUE, N.W., WASHINGTON, DC, 20037		
NUMBER OF CLAIMS:	2		
EXEMPLARY CLAIM:	1		
LINE COUNT:	648		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A resin composition containing from 85 parts by weight inclusive to 100

parts by weight exclusive of a polymer (1) and from 0 parts by weight exclusive to 15 parts by weight inclusive of a polymer (2), provided that the total of the polymer (1) and the polymer (2) is assigned to be 100 parts by weight,

the polymer (1) being a saponified ethylene-vinyl acetate copolymer having an ethylene unit content of from 20 to 60% by mole and a saponification degree of from 90 to 100%, and

the polymer (2) being a saponified ethylene-vinyl acetate copolymer having an ethylene unit content of from 85 to 95% by mole and a saponification degree of from 45 to 70%.

The resin composition exhibits superior gas-barrier properties under high humidity conditions as well as under dry conditions, and provides a formed product of high quality.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 3 OF 7 USPATFULL on STN

ACCESSION NUMBER: 2003:21464 USPATFULL

TITLE: Conductive polymer composition and ptc element

INVENTOR(S): Iwamoto, Yasumasa, Chiba, JAPAN
Aridomi, Tadatoshi, Chiba, JAPAN
Okubo, Yoichi, Chiba, JAPAN

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 2003015285	A1	20030123	
APPLICATION INFO.:	US 2002-169252	A1	20020628	(10)
	WO 2001-JP666		20010131	

	NUMBER	DATE
PRIORITY INFORMATION:	JP 2000-23942	20000201
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	YOUNG & THOMPSON, 745 SOUTH 23RD STREET 2ND FLOOR, ARLINGTON, VA, 22202	
NUMBER OF CLAIMS:	6	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	3 Drawing Page(s)	
LINE COUNT:	546	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A conductive polymer composition comprising 100 parts by weight of a crystalline polymer (A) and 5 to 150 parts by weight of a conductive powder (B) dispersed in the crystalline polymer (A) is disclosed. The crystalline polymer (A) shows crystal transition, thereby the conductive polymer composition exhibits PTC characteristics.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 4 OF 7 USPATFULL on STN

ACCESSION NUMBER: 2002:266392 USPATFULL

TITLE: Block copolymer and composition containing the copolymer

INVENTOR(S): Sasagawa, Masahiro, Kanagawa, JAPAN
Takayama, Shigeki, Tokyo, JAPAN
Nakajima, Shigeo, Kanagawa, JAPAN

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 2002147274	A1	20021010	
APPLICATION INFO.:	US 2002-30246	A1	20020109	(10)

	NUMBER	DATE
PRIORITY INFORMATION:	JP 2000-135800	20000905
	JP 2000-164668	20000601
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	BIRCH STEWART KOLASCH & BIRCH, PO BOX 747, FALLS CHURCH, VA, 22040-0747	
NUMBER OF CLAIMS:	8	
EXEMPLARY CLAIM:	1	
LINE COUNT:	1628	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB An object of the present invention is to provide a block copolymer having the excellent improving characteristics. Specifically, the block copolymer is a hydrogenated block copolymer capable of obtaining a molded product, as a polyolefin based resin composition, having excellent physical property balance between impact resistance, in particular, low temperature impact resistance and rigidity, and molding processability, and further, capable of providing, as a viscous adhesive composition, a composition having an excellent balance between adhesion characteristics such as adhesive power and retentivity, and having excellent melt viscosity stability under heating at a high temperature.

The block copolymer is a hydrogenation product of a block copolymer having at least one polymer block mainly comprising a vinyl aromatic hydrocarbon and at least one polymer block mainly comprising a conjugate diene compound, and having a vinyl bonding amount V (%) based on the conjugate diene compound of from not less than 37% to less than 70%,

wherein (a) the total hydrogenation ratio H (%) of the unsaturated double bond based on the conjugate diene compound satisfies the following relational formulae:

$$V < H < 1.25 + V + 10$$

$$50 \leq H < 80,$$

and

wherein (b) the hydrogenation ratio of the vinyl bond is 82% or more.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 5 OF 7 USPATFULL on STN
ACCESSION NUMBER: 2002:224687 USPATFULL
TITLE: Preparation of vinyl-containing macromers
INVENTOR(S): Markel, Eric J., Kingwood, TX, United States
PATENT ASSIGNEE(S): ExxonMobile Chemical Patents Inc., Houston, TX, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6444773	B1	20020903
APPLICATION INFO.:	US 2000-521043		20000308 (9)
RELATED APPLN. INFO.:	Continuation of Ser. No. US 1998-20138, filed on 6 Feb 1998, now abandoned		

	NUMBER	DATE
PRIORITY INFORMATION:	US 1997-37323P	19970207 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	GRANTED	

PRIMARY EXAMINER: Wu, David W.
ASSISTANT EXAMINER: Lee, Caixia
LEGAL REPRESENTATIVE: Muller, William G., Runyan, Charles E.
NUMBER OF CLAIMS: 18
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 1 Drawing Figure(s); 1 Drawing Page(s)
LINE COUNT: 880

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A composition of matter comprising vinyl ended copolymer chains having a number average molecular weight (M.sub.n) of about 1500 to 75,000, the number average molecular weight being determined by gel permeation chromatography (GPC) at 145° C., a ratio of vinyl groups to total olefin groups according to the formula ##EQU1##

where a and b have the following sets of values: when a=-0.24, b=0.8; when a=-0.20, b=0.8; when a=-0.18, b=0.83; when a=-0.15, b=0.83; and when a=-0.10, b=0.85; and where the total number of vinyl groups per 1000 carbon atoms is in the range from greater than 0.13 to less than 9.85, the **vinyl group measurement** being taken by GPC (145° C.) and .sup.1H-NMR (125° C.).

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 6 OF 7 USPATFULL on STN

ACCESSION NUMBER: 2001:44313 USPATFULL
TITLE: Product and method for making polyolefin polymer dispersions
INVENTOR(S): Datta, Sudhin, Houston, TX, United States
Cozewith, Charles C., Bellaire, TX, United States
Harrington, Bruce A., Houston, TX, United States
PATENT ASSIGNEE(S): Exxon Chemical Patents, Inc., Baytown, TX, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6207756	B1	20010327
APPLICATION INFO.:	US 1999-260966		19990301 (9)

	NUMBER	DATE
PRIORITY INFORMATION:	US 1998-76713P	19980304 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	Granted	
PRIMARY EXAMINER:	Nutter, Nathan M.	
LEGAL REPRESENTATIVE:	Chi, A. R.	
NUMBER OF CLAIMS:	18	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	2 Drawing Figure(s); 2 Drawing Page(s)	
LINE COUNT:	1833	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB This invention relates to polyolefin polymer dispersions having a semicrystalline plastic (SP) component and an amorphous elastomer (AE) component. The polymer dispersions of this invention are characterized by a continuous phase containing a discontinuous phase (dispersed phase) as seen by FIG. 2. Embodiments of this invention include either: 1) a discontinuous phase composed of the SP component dispersed within a continuous phase composed of the amorphous elastomer component and/or, 2) a discontinuous phase composed of the amorphous elastomer dispersed within a continuous phase composed of the SP component.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 7 OF 7 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2004:370975 CAPLUS

DOCUMENT NUMBER: 140:358706
 TITLE: Process for preparation of isoolefin polymers with controlled free-radical curability
 INVENTOR(S): Syme, Dave; Gronowski, Adam; Kaszas, Gabor; Watson, Kenneth Norman
 PATENT ASSIGNEE(S): Bayer Inc., Can.
 SOURCE: PCT Int. Appl., 17 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004037874	A1	20040506	WO 2003-CA1621	20031023
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				

PRIORITY APPLN. INFO.: CA 2002-2409600 A 20021024

AB A process is provided for preparation of an isoolefin polymer comprising repeating units derived from ≥ 1 isoolefin (e.g., isobutylene), ≥ 1 divinyl aromatic monomer (e.g., divinylbenzene) and, optionally, addnl. copolymerizable monomers, wherein the content of unreacted vinyl groups from the aromatic monomer is predicted by anal. of peak height at 988 cm⁻¹ in **FTIR** spectra. One or more process parameters are changed according to the result of the **FTIR** measurement in order to achieve a desired peroxide-induced curability of a raw polymer or its compound

=> D L6 5 HIT

L6 ANSWER 5 OF 7 USPATFULL on STN

AB where a and b have the following sets of valuer: when a=-0.24, b=0.8; when a=-0.20, b=0.8; when a=-0.18, b=0.83; when a=-0.15, b=0.83; and when a=-0.10, b=0.85; and where the total number of vinyl groups per 1000 carbon atoms is in the range from greater than 0.13 to less than 9.85, the **vinyl group measurement** being taken by GPC (145° C.) and .sup.1H-NMR (125° C.).

DETD Macromer Synthesis. The 2-liter reactor was simultaneously purged of nitrogen and pressure tested using two ethylene fill/purge cycles (to 300 psig) (2170 kPa). Then, the reactor pressure was raised to about 40 psig (377 kPa) to maintain positive reactor pressure during setup operations. Jacket water temperature was set to 90° C. and 1200 milliliters of toluene and 20 ml of butene were added to the reactor. The stirrer was set to 750 rpm. Additional ethylene was added to maintain a positive reactor gauge pressure as gas phase ethylene was absorbed into solution. The reactor temperature controller was set to 90° C. and the system was allowed to reach steady state. The ethylene pressure regulator was next set to 40 psig (377 kPa) and ethylene was added to the system until a steady state was achieved as measured by zero ethylene uptake. The reactor was isolated and a pulse of toluene pressurized to 300 psig was used to force the catalyst solution from the addition tube into the reactor. The 40 psig (377 kPa) ethylene supply manifold was immediately opened to the reactor in order

to maintain a constant reactor pressure as ethylene was consumed by reaction. After 25 minutes of reaction, the reaction solution was quickly heated to 147° C. for 15 minutes to kill the catalyst, then cooled to 90° C. The system was continuously vented and purged with nitrogen to dryness so as to remove both solvent and the ethylene and butene monomers. Then, 1,200 ml of toluene were added and the system equilibrated at 90° C. A sample of the ethylene-butene macromer was removed for analysis via the addition port. Number and weight average molecular weights of the macromer were 22,394 and 58,119 respectively. The comonomer content of the macromer as obtained by **FTIR** measurements was 6.6 mole % butene.

DETD Branched Polymer Preparation. The contents of the reactor of Example III (at 90° C.) were pressurized to 100 psig by adjusting the ethylene supply regulator and allowing the system to reach equilibrium, as indicated by zero ethylene flow into the reactor. A catalyst addition tube containing 2 ml of 10% MAO in toluene solution and 2 mg of (C.sub.5Me.sub.4SiMe.sub.2NC.sub.12H.sub.23)TiCl.sub.2 in toluene solution was connected to the addition port. The catalyst was injected using a pulse of toluene at 300 psi. After 10 minutes of reaction time, the system pressure was raised to 300 psig (2170 kPa). After 23 minutes of reaction time, the system was quickly vented and cooled. The sample was quenched using an excess of methanol and evaporated to dryness. 69.5 grams of product were isolated and analyzed by **FTIR** as homopolyethylene backbones having 56% by weight branches of the ethylene-butene macromer of Example III.

DETD The chain branching was measured by separating the high molecular weight branched material from the low molecular weight macromer using GPC methods and then quantifying by **FTIR** the amount of the butene in both the macromer and the high molecular weight branched polymer. Thus the average butene content in the branched, high molecular weight material was 3.7 mole %, as opposed to that of the macromer product at 6.6 mole % butene. The branching level was calculated from the following equation: ##EQU3##

CLM What is claimed is:

1. A composition of matter comprising: (a) vinyl ended **olefin copolymer** chains having a number average molecular weight (M.sub.n) of about 1500 to 25,154, the number average molecular weight being determined by gel permeation chromatography (GPC) at 145° C.; (b) a ratio of vinyl groups to total olefin groups according to the formula: (vinyl groups/olefin groups) ≥ (comonomer mole percentage + 0.1).sup.a + 10.sup.a + b (1) where a and b have the following sets of values: (i) when a = -0.24, b = 0.8; (ii) when a = -0.20, b = 0.8; (iii) when a = -0.18, b = 0.83; (iv) when a = -0.15, b = 0.83; or (v) when a = -0.10; b = 0.085; wherein the total number of vinyl groups per 1000 carbon atoms is greater than or equal to 8000 + M.sub.n; wherein the number of vinyl groups is determined by .sup.1H-NMR at 125° C.; and wherein M.sub.w/M.sub.n ranges from 2.083 to 5.666.

7. The composition of claim 1 wherein the vinyl ended **olefin copolymer** chains are prepared from monomers selected from at least one of ethylene, C.sub.3 to C.sub.12 α-olefins, isobutylene or norbornene.

11. A composition of matter comprising: (a) vinyl ended **olefin copolymer** chains having a number average molecular weight (M.sub.n) of about 1500 to 75,000, the number average molecular weight being determined by gel permeation chromatography (GPC) at 145° C.; (b) a ratio of vinyl groups to total olefin groups according to the formula: (vinyl groups/olefin groups) ≥ (comonomer mole percentage + 0.1).sup.a + 10.sup.a + b (1) where a and b have the following sets of values: (i) when a = -0.24, b = 0.8; (ii) when a = -0.20, b = 0.8; (iii) when a = -0.18, b = 0.83; (iv) when a = -0.15, b = 0.83; or (v) when a = -0.10, b = 0.85; wherein the total number of vinyl groups per 1000 carbon atoms is greater than or equal to 8000 + M.sub.n;

wherein the number of vinyl groups is determined by $^1\text{H-NMR}$ at 125°C ; wherein $M_{\text{sub.w}}/M_{\text{sub.n}}$ ranges from 2.083 to 5.666; and wherein the vinyl ended **olefin copolymer** chains are prepared from ethylene and at least one monomer selected from $C_{\text{sub.3}}$ to $C_{\text{sub.12}}$ α -olefins.

=> D L6 6 HIT

L6 ANSWER 6 OF 7 USPATFULL on STN

SUMM A second method of making intimate mixtures comprising SP and AE is the use of vinyl unsaturation in a polymer made in the first reactor as a method to incorporate chemical links between the polymer made in the first and the second reactors and thus obtain an intimate mixture of polymer. Datta, et al., in a publication in the journal *Macromolecules* v 24, pp. 561-566 (1991) have shown the sequential polymerization of amorphous elastomer followed by a SP component. The polymer dispersion incorporates a diene monomer, vinyl norbornene and 3-butenyl norbornene being exemplified, which leave a pendant vinyl unsaturation on the polymer backbone material being made in the first polymerization reactor. The amount of the **vinyl** unsaturation is **measured** by infra red spectroscopic techniques and is estimated to be equivalent to 6 to 10 vinyl groups per polymer chain. The product of this sequential polymerization is intimately mixed only when dienes containing residual vinyl unsaturation are used. Addition of any other type of diene or the generation of a functionality which is not vinyl unsaturation does not lead to the formation of an intimate mixture of polyolefins. The use of such dienes can lead to highly branched structures which are undesirable in many end use applications.

DETD The conditions for the polymerization are chosen such that the component polymer made in the first reactor is substantially free of vinyl unsaturation. Vinyl unsaturation is defined by the structure $R_{\text{sub.1}}-C(R_{\text{sub.2}}-R_{\text{sub.3}})-CH=CH_{\text{sub.2}}$, wherein R , $R_{\text{sub.2}}$ and $R_{\text{sub.3}}$ are hydrocarbon moieties either pendant to or at the end of the chain. Vinyl unsaturation in the chain occurs by a variety of processes such as the addition of comonomers which contain this functionality in or by mechanism of termination of the chain which leads to this functionality. Vinyl unsaturation introduced by the use of diene comonomer will typically be pendant to the main chain while vinyl unsaturation arising from chain transfer processes will typically be present at the end of a chain. Vinyl unsaturation in the polymer produced in the first polymerization step may lead to formation of intimate mixtures with the polymer produced in the subsequent polymerization reactors by copolymerization of the vinyl unsaturation terminated polymer as a macromonomer in the second polymerization as shown in the discussion of the prior art described below. **Vinyl** unsaturation is **measured** by a variety of spectroscopic techniques such as infra red or nuclear magnetic resonance spectroscopy and substantially absent levels of vinyl functionality is defined as less than 0.20 vinyl groups per chain.

DETD Lohse et al. *Macromolecules* 24, 561-566 (1991) show a method of making a polymer with SP and AE components which is similar to this invention. However, in that case, a termonomer was required to provide a vinyl double bond on the polymer made in the first reactor, for the copolymerization of a section of the second polymer, by incorporation of the vinyl double bond. The presence of this vinyl bond can also cause the first polymer to contain undesirable amounts of branching. Also, in this procedure, a different catalyst system was used for each polymer component. For the polymer dispersions of this invention, this restriction on the structure of the polymer made in the first reactor has been removed, only a single catalyst is used, and the beneficial properties are observed in all compositions of the polymer made in the

first reactor including polymers without vinyl unsaturation introduced by means of a diene monomer. Copolymers of ethylene and alpha olefins are examples of AE and homopolymers of ethylene or propylene are examples of SP which contain no vinyl double bonds pendant to the main chain while **copolymers** of ethylene, alpha **olefins** and 5-ethylidene-2-norbornene are examples of AE which contain pendant double bonds which are not vinyl.

DETD The polymer from the first and second reactors was characterized by Mooney viscosity (by Mooney Viscometer, ASTM D1648), ethylene content (by **FTIR**, ASTM D3900), ENB content (by **FTIR**, ASTM D6047), melt temperature and/or glass transition temperature (by DSC, described herein), and molecular weight (by GPC, described herein). Analysis of the second reactor polymer represents the properties of the overall polymer blend.

=> D HIS

(FILE 'HOME' ENTERED AT 15:30:24 ON 10 JUN 2004)
SET PLURALS ON PERM
SET ABBR ON PERM

FILE 'USPATFULL, USPAT2, CAPLUS, JAPIO' ENTERED AT 15:31:17 ON 10 JUN 2004

L1 78662 S FTIR OR FT-IR OR FOURIER TRANSFORM IR OR (FOURIER TRANSFORM (
L2 82 S (MEASURE? OR DETECT? OR QUANTIFY) (3A) (VINYL GROUP OR VINYL MO
L3 1721 S (MEASURE? OR DETECT? OR QUANTIFY) (3A) VINYL
L4 64 S L1 AND L3
L5 1987 S L4 AND OLEFIN OR ISOOLEFIN OR ISOMONOOLEFIN
L6 7 S L4 AND (OLEFIN OR ISOOLEFIN OR ISOMONOOLEFIN) (3A) (COPOLYMER

=> S (DEGREE OR LEVEL OR EXTENT) (3A) (CURE OR CROSSLINK?)

L7 37408 (DEGREE OR LEVEL OR EXTENT) (3A) (CURE OR CROSSLINK?)

=> S L1 AND L7

L8 1187 L1 AND L7

=> S L8 AND DIVINYLBENZENE OR DIVINYLBENZENE

L9 50781 L8 AND DIVINYLBENZENE OR DIVINYLBENZENE

=> S (COPOLYMER OR TERPOLYMER) (4W) (DIVINYLBENZENE OR DIVINYLBENZENE)

L10 4360 (COPOLYMER OR TERPOLYMER) (4W) (DIVINYLBENZENE OR DIVINYLBENZENE)

=> S L1 AND L10

L11 41 L1 AND L10

=> D L11 1-41 IBIB ABS

L11 ANSWER 1 OF 41 USPATFULL on STN

ACCESSION NUMBER: 2003:325209 USPATFULL

TITLE: Polymer with superior polar retention for sample pretreatment

INVENTOR(S): Kallury, Krishna M.R., Torrance, CA, UNITED STATES
Jones, David C., Long Beach, CA, UNITED STATES
Shah, Vipul J., West Covina, CA, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2003229191	A1	20031211
APPLICATION INFO.:	US 2002-252276	A1	20020923 (10)

	NUMBER	DATE
PRIORITY INFORMATION:	US 2002-385604P	20020603 (60)

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: Varian Inc., Legal Department, 3120 Hansen Way D-102,
Palo Alto, CA, 94304
NUMBER OF CLAIMS: 42
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 13 Drawing Page(s)
LINE COUNT: 1377

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A polymeric sorbent that can be employed in the extraction and purification of polar and nonpolar molecules from a complex media (e.g. pharmaceuticals from biological matrices) by solid phase extraction (SPE). The sorbent exhibits a strong capacity for the retention of polar molecules and can facilitate the recovery of compounds possessing a range of polarities while furnishing clean extracts showing low ion suppression. The polymer is wetttable and remains wetted over long periods of time.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L11 ANSWER 2 OF 41 USPATFULL on STN

ACCESSION NUMBER: 2003:250987 USPATFULL
TITLE: Encoding and decoding of array sensors utilizing nanocrystals
INVENTOR(S): Chee, Mark S., Del Mar, CA, UNITED STATES
Barnard, Steven M., San Diego, CA, UNITED STATES
Zhao, Chanfeng, San Diego, CA, UNITED STATES
PATENT ASSIGNEE(S): Illumina, Inc. (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2003175773	A1	20030918
APPLICATION INFO.:	US 2002-334416	A1	20021231 (10)
RELATED APPLN. INFO.:	Division of Ser. No. US 1999-315584, filed on 20 May 1999, GRANTED, Pat. No. US 6544732		
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	APPLICATION		
LEGAL REPRESENTATIVE:	DORSEY & WHITNEY LLP, INTELLECTUAL PROPERTY DEPARTMENT, 4 EMBARCADERO CENTER, SUITE 3400, SAN FRANCISCO, CA, 94111		
NUMBER OF CLAIMS:	29		
EXEMPLARY CLAIM:	1		
LINE COUNT:	1974		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Described herein are assays and components for encoding and decoding microspheres. Each assay or component described utilizes at least one nanocrystal.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L11 ANSWER 3 OF 41 USPATFULL on STN

ACCESSION NUMBER: 2003:174165 USPATFULL
TITLE: Ethylene copolymer compositions
INVENTOR(S): Jacobsen, Grant B., Houston, TX, UNITED STATES
Matsushita, Fumio, Kurashiki-shi, JAPAN
Spencer, Lee, Pearland, TX, UNITED STATES
Wauteraerts, Peter L., Oostham, BELGIUM
PATENT ASSIGNEE(S): Dow Global Technologies, Inc. (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2003120013	A1	20030626
APPLICATION INFO.:	US 2003-341235	A1	20030113 (10)
RELATED APPLN. INFO.:	Continuation of Ser. No. US 1997-857816, filed on 16		

May 1997, GRANTED, Pat. No. US 6506866
DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: J. Benjamin Bai, Ph.D, Jenkins & Gilchrist, A
Professional Corporation, 1100 Louisiana, Suite 1800,
Houston, TX, 77002-5214
NUMBER OF CLAIMS: 11
EXEMPLARY CLAIM: 36
LINE COUNT: 3009

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Disclosed is a novel ethylene copolymer by copolymerizing an ethylene and at least one comonomer selected from a compound represented by the formula H.sub.2C.dbd.CHR wherein R is an alkyl group or an aryl group, and a diene, by slurry polymerization process in the presence of a solid catalyst system comprising a support, a transition metal compound and an activator capable of converting the transition metal compound into a catalytically active transition metal complex.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L11 ANSWER 4 OF 41 USPATFULL on STN

ACCESSION NUMBER: 2003:155351 USPATFULL
TITLE: Process for the purification of nitric oxide
INVENTOR(S): Ho, Dustin Wenpin, Fremont, CA, United States
Tang, Deming, Chandler, AZ, United States
Whitlock, Walter H., Chapel Hill, NC, United States
PATENT ASSIGNEE(S): The BOC Group, Inc., Murray Hill, NJ, United States
(U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6576044	B1	20030610
APPLICATION INFO.:	US 2000-722802		20001127 (9)
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 1999-257753, filed on 25 Feb 1999, now abandoned		
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	GRANTED		
PRIMARY EXAMINER:	Spitzer, Robert H.		
LEGAL REPRESENTATIVE:	Von Neida, Philip H., Cheung, Wan Yee, Pace, Salvatore P.		
NUMBER OF CLAIMS:	30		
EXEMPLARY CLAIM:	1		
NUMBER OF DRAWINGS:	0 Drawing Figure(s); 0 Drawing Page(s)		
LINE COUNT:	625		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A gas mixture comprised of nitric oxide and one or more impurities selected from nitrous oxide, nitrogen dioxide, nitrous acid, sulfur dioxide, carbonyl sulfide, water vapor and carbon dioxide is purified by pressure swing adsorption or temperature swing adsorption using a porous, metal-free polymer adsorbent that does not promote the disproportionation of nitric oxide to nitrogen dioxide and nitrogen or nitrous oxide. The adsorption step is preferably carried out at temperatures in the range of about -120 to about 0° C.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L11 ANSWER 5 OF 41 USPATFULL on STN

ACCESSION NUMBER: 2003:143089 USPATFULL
TITLE: Manufacturing method and article produced by the method
INVENTOR(S): Arntsen, Torunn, Uppsala, SWEDEN
Karlson, Jan Roger, Oslo, NORWAY
Fonnum, Geir, Rasta, NORWAY
Hagen, Steinar, Hagen, NORWAY
PATENT ASSIGNEE(S): Amersham Biosciences AB, Uppsala, SWEDEN (non-U.S.)